LISTING OF THE CLAIMS
(including amendments, if any)

1.   (**currently amended**) A method for representing statistics about a table including one or more rows, each row including a respective value, the method including:

creating ~~zero~~ <u>one</u> or more histogram buckets, each histogram bucket including a width representing a respective range of values and a height representing a count of rows <u>in the table</u> having values in the range of values; ~~and~~

creating one or more high-bias buckets, each high-bias bucket ~~representing~~ <u>including</u> one or more <u>high-bias</u> values <u>up to a maximum number of high-bias values (F)</u> that appear in a minimum percentage of rows <u>in the table and for each high-bias value a number of rows that contain the high-bias value</u>;

<u>repeating the following:</u>

<u>(a) determining an average height of the histogram buckets;</u>

<u>(b) determining a reclassification threshold based on the average height of the histogram buckets; and</u>

<u>(c) concluding that a value associated with one of the one or more histogram buckets occurs in more rows of the table than the reclassification threshold, and, in response, concluding that the number of high-bias values associated with at least one of the one or more high-bias buckets has not reached the maximum number of high-bias values, and, in response, including the value in one of the high-bias buckets for which the number of high-bias values has not reached the maximum number of high-bias values;</u>

<u>until no values included in any of the ranges of values associated with the histogram buckets occur in more than the reclassification threshold number of rows in the table; and</u>

~~performing query optimization based, at least in part, on one or more of the zero~~ <u>saving in a memory the width and the height of each of the one</u> or more histogram buckets and <u>the one or more high-bias values and numbers of rows for each of the</u> one or more high-bias buckets.

2.　　(**currently amended**) The method of claim 1, where ~~a total number of buckets is a fixed number equal to~~ the sum of the number of histogram buckets and the number of high-bias buckets **is less than a predetermined number**.

3.　　(**cancelled**)

4.　　(**currently amended**) The method of claim [[3]] **1**, where the reclassification threshold is equal to the average height of the histogram buckets multiplied by (1+S), where S is a positive percentage represented as a decimal.

5-9.　　(**cancelled**)

10.　　(**currently amended**)   The method of claim [[9]] **1**, ~~where (a) includes~~ **further including** setting the minimum percentage of rows to $\dfrac{1}{FB}\%$, where ~~F is equal to a number of high-bias values that each high-bias bucket can contain and~~ B is equal to the total number of buckets.

11.　　(**currently amended**)   The method of claim [[9]] **1**, ~~where (c)(1) includes~~ **further including adjusting the minimum percentage of rows** ~~setting the adjusted minimum percentage~~ to $\dfrac{V(FB-I)}{FB}\%$, where ~~F is equal to a number of high-bias values that each high-bias bucket can contain,~~ B is equal to the total number of buckets, V is equal to the minimum percentage of rows, and I is equal to a number of values represented in high-bias buckets.

12-14.   (cancelled)

15.   (**currently amended**) A database system including:

a massively parallel processing system including:

one or more nodes;

a plurality of CPUs, each of the one or more nodes providing access to one or more CPUs;

a plurality of data storage facilities each of the one or more CPUs providing access to one or more data storage facilities;

P partitions, each partition residing on one or more data storage facilities;

a process for representing statistics, where the database system represents statistics about a table including one or more rows, each row including a respective value, the process including:

creating ~~zero~~ **one** or more histogram buckets, each histogram bucket including a width representing a respective range of values and a height representing a count of rows **in the table** having values in the range of values; ~~and~~

creating one or more high-bias buckets, each high-bias bucket ~~representing~~ **including** one or more **high-bias** values **up to a maximum number of high-bias values (F)** that appear in a minimum percentage of rows **in the table and for each high-bias value a number of rows that contain the high-bias value;**

repeating the following:

(a) determining an average height of the histogram buckets;

(b) determining a reclassification threshold based on the average height of the histogram buckets; and

(c) concluding that a value associated with one of the one or more histogram buckets occurs in more rows of the table than the reclassification threshold, and, in response, concluding that the number of high-bias values associated with at least one of the one or more high-bias buckets has not reached the maximum number of high-bias values, and, in response, including the value in one of

the high-bias buckets for which the number of high-bias values has not reached the maximum number of high-bias values;

until no values included in any of the ranges of values associated with the histogram buckets occur in more than the reclassification threshold number of rows in the table; and

~~performing query optimization based, at least in part, on one or more of the zero~~ **saving in a memory the width and the height of each of the one** or more histogram buckets and **the one or more high-bias values and numbers of rows for each of the** one or more high-bias buckets.

16.   (**currently amended**)   The database system of claim 15, where ~~a total number of buckets is a fixed number equal to~~ the sum of the number of histogram buckets and the number of high-bias buckets **is less than a predetermined number**.

17.   (**cancelled**)

18.   (**currently amended**)   The database system of claim [[17]] **15**, where the reclassification threshold is equal to the average height of the histogram buckets multiplied by (1+S), where S is a positive percentage represented as a decimal.

19-23. (**cancelled**)

24.   (**currently amended**)   The database system of claim [[23]] **15**, ~~where (a) includes~~ **further including** setting the minimum percentage of rows to $\dfrac{1}{FB}\%$, where ~~F is equal to a number of high-bias values that each high-bias bucket can contain and~~ B is equal to the total number of buckets.

25.   (**currently amended**)   The database system of claim [[23]] **15**, ~~where (e)(1) includes~~ **further including adjusting the minimum percentage of rows** ~~setting the adjusted minimum percentage~~ to $\dfrac{V(FB-I)}{FB}\%$, where ~~F is equal to a number of high-bias values that each high-bias bucket can contain,~~ B is equal to the total number of buckets, V is equal to the minimum percentage of rows, and I is equal to a number of values represented in high-bias buckets.

26-28.   (**cancelled**)

29.   (**currently amended**)   A computer program, stored on a tangible storage medium, for use in representing statistics in a database running in a partitioned parallel environment including P partitions, each partition residing on one or more parallel processing systems, the database including a first table including one or more rows stored in one or more of the P partitions, the program including executable instructions that cause a computer to:

> represent statistics about a table including one or more rows, each row including one or more values, the program further causing the computer to:

> > create ~~zero~~ **one** or more histogram buckets, each histogram bucket including a width representing a respective range of values and a height representing a count of rows **in the table** having values in the range of values; ~~and~~

> > one or more high-bias buckets, each high-bias bucket ~~representing~~ **including** one or more **high-bias** values **up to a maximum number of high-bias values (F)** that appear in a minimum percentage of rows **in the table and for each high-bias value a number of rows that contain the high-bias value**;

> > **repeat the following:**

> > > **(a) determine an average height of the histogram buckets;**

> > > **(b) determine a reclassification threshold based on the average height of the histogram buckets; and**

> > > **(c) conclude that a value associated with one of the one or more histogram buckets occurs in more rows of the table than the reclassification threshold, and, in response, conclude that the number of high-bias values associated with at least one of the one**

or more high-bias buckets has not reached the maximum number of high-bias values, and, in response, include the value in one of the high-bias buckets for which the number of high-bias values has not reached the maximum number of high-bias values;

until no values included in any of the ranges of values associated with the histogram buckets occur in more than the reclassification threshold number of rows in the table; and

~~perform query optimization based, at least in part, on one or more of the zero~~ **save in a memory the width and the height of each of the one** or more histogram buckets and **the one or more high-bias values and numbers of rows for each of the** one or more high-bias buckets.

30.　　**(currently amended)**　The computer program of claim 29, where ~~a total number of buckets is a fixed number equal to~~ the sum of the number of histogram buckets and the number of high-bias buckets **is less than a predetermined number**.

31.　　**(cancelled)**

32.　　**(currently amended)**　The computer program of claim [[31]] **29**, where the reclassification threshold is equal to the average height of the histogram buckets multiplied by (1+S), where S is a positive percentage represented as a decimal.

33-37.　**(cancelled)**

38.　　**(currently amended)**　The computer program of claim [[37]] **29**, ~~where (a) includes~~ further **including** executable instructions that cause the computer to set the minimum percentage of rows to $\dfrac{1}{FB}\%$, where ~~F is equal to a number of high-bias values that each high-bias bucket can contain and~~ B is equal to the total number of buckets.

39.   (**currently amended**) The computer program of claim [[37]] __29__, ~~where (c)(1) includes~~ further __including__ executable instructions that cause the computer to __adjust the minimum percentage of rows__ ~~set the adjusted minimum percentage~~ to $\dfrac{V(FB-I)}{FB}\%$, where ~~F is equal to a number of high-bias values that each high-bias bucket can contain,~~ B is equal to the total number of buckets, V is equal to the minimum percentage of rows, and I is equal to a number of values represented in high-bias buckets.

40-42.   (**cancelled**)